

Pharmacy College –Basra University  
Human Histology  
Practical lesson : The Skin  
Mon, Tue 08-09/05/2023

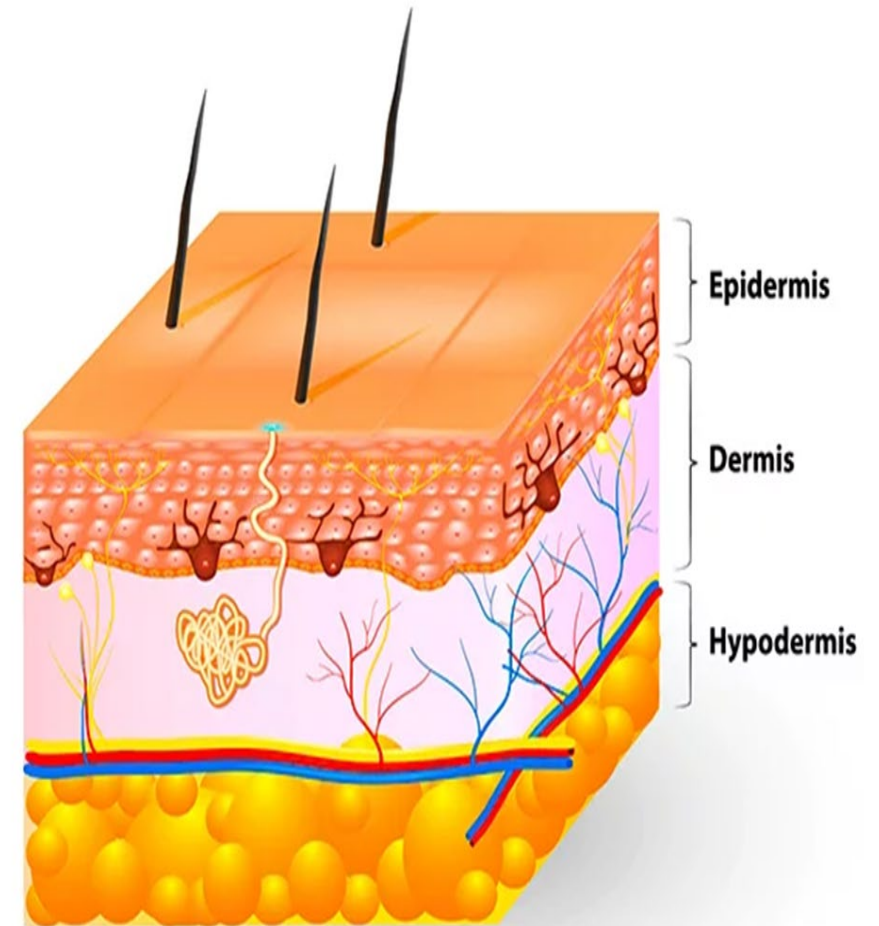


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# The skin

- ✓ The skin covers and helps protect the body from its environment.
- ✓ It is also known as integument which is part of the integumentary system.
- ✓ The integumentary system consists of structures derivatives from the skin such as nails, hair, and glans within the skin such sweat glands.

## THE LAYERS OF HUMAN SKIN



✓ The skin can be divided into two general types thick and thin.

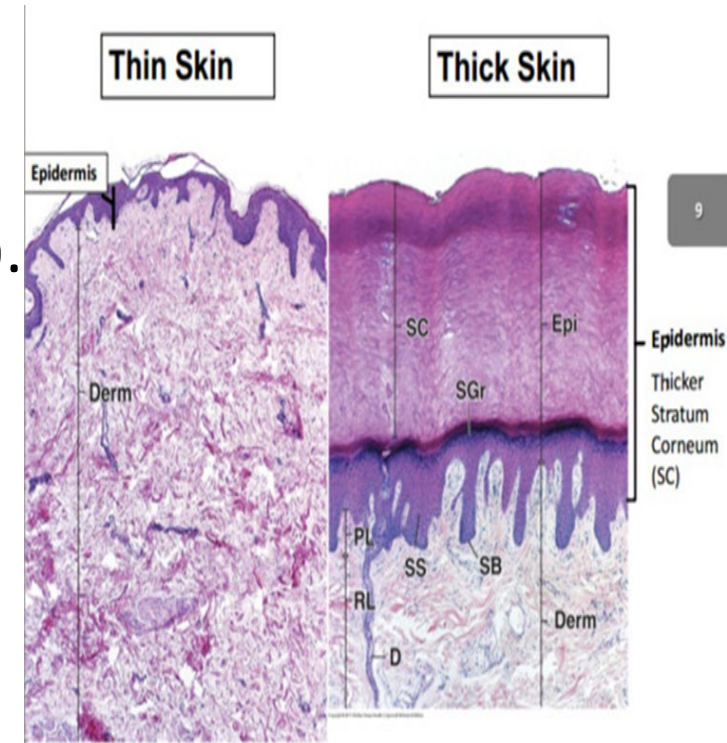
✓ Thick skin : palms of the hands and soles of the feet.

✓ Thick skin does not have hair follicle or ( sebaceous glands).

✓ Thick skin thickness is often more than five millimeters.

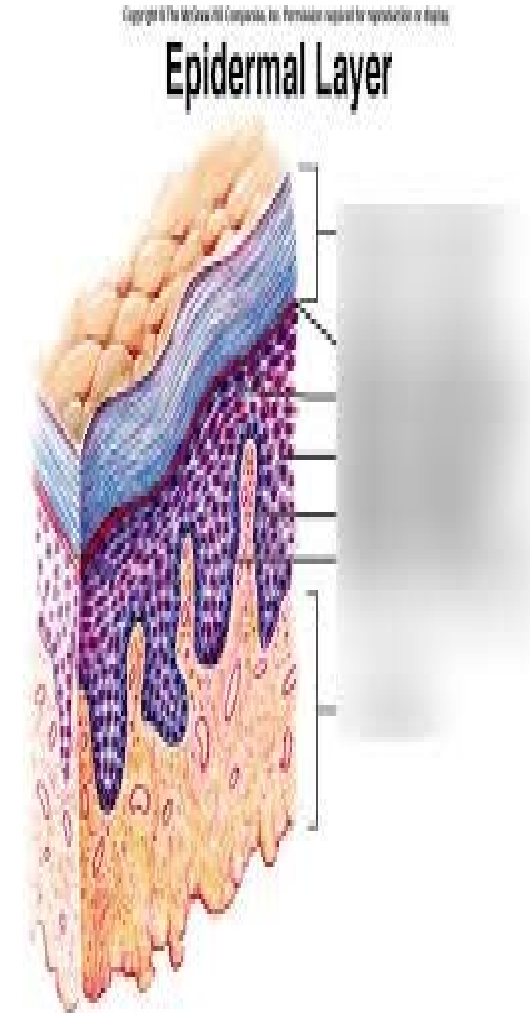
✓ Thin skin thickness is typically only between 1 to 2 millimeters.

✓ Thin skin has all the same structures as thick skin except it has a thinner epidermis and additional structures such as hair follicle and sebaceous glands.



The skin has three main layers : **Epidermis** : It has sub layers:

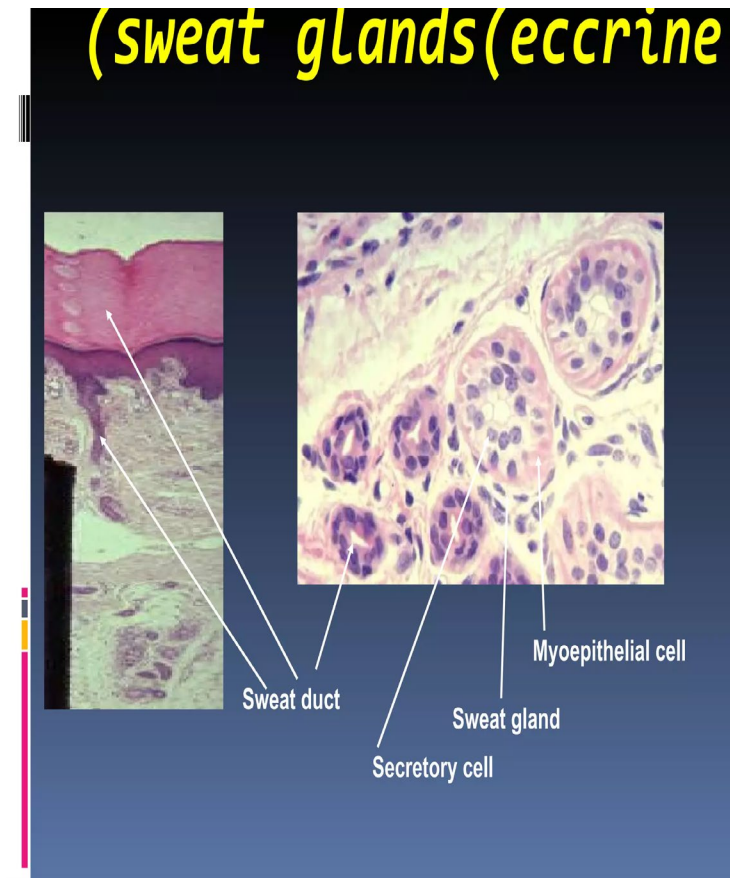
- **Stratum basalis** : a single layer of cuboidal or columnar germ cells.
- **Stratum spinosum** : called keratinocytes layer due to their synthesis of keratin. They are attached with each others by strong cell to cell structures called desmosomes. They are found between the cells as tiny needles or spines
- **Stratum granulosum**: Cells of this layer contain dense basophilic keratohyaline granules within their cytoplasm.
- **Stratum lucidum**: lucid layer of two or three cells found in the thick skin.
- **Stratum corneum**: It consists of around 15 -30 layers of squamous keratinocytes. Cells shed or desquamate from the surface of the skin.



**Dermis** : It is below the epidermis and it is divided into two regions :

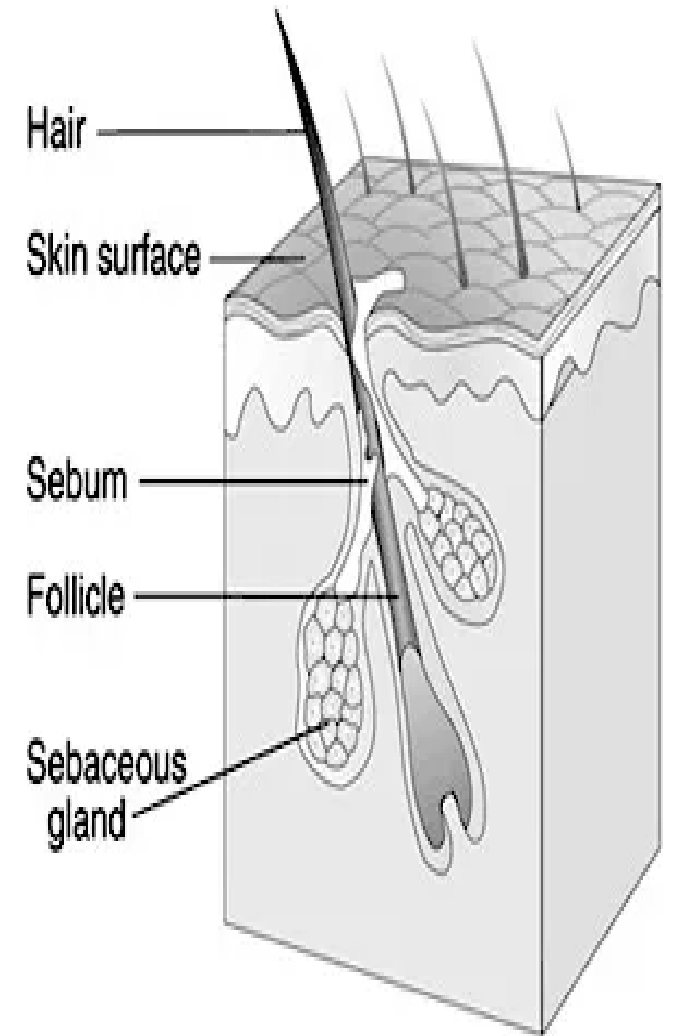
- **Papillary layer** improves adhesions between the epidermal and dermal layers.
- **Reticular layer** is much thicker and contains a lot of dense irregular connective tissue and other specialized structures such as sweat glands.

**Sweat glands** : coiled tubular glands and ducts that produce and secrete sweat onto the surface of the skin . The walls of sweat glands composed of simple or stratified cuboidal epithelium .



**Follicle hair** : thin skin , it has a hair bulb that contains specialized cells to produce keratinocytes to become eventually the hair shaft and the inner root sheath.

**Sebaceous gland** : produce and secrete an oily and highly lipid fluid called sebum. The cells called sebocytes with central nucleus. The cytoplasm filled with fat droplets that give a cell a foaming –appearing cytoplasm. The glandular cells then drain into converging ducts to be emptied into the upper portion of the hair follicle. The arrector pili muscle below the base of the sebaceous gland. It able to move hair follicles to cause hair stand on their end when a person is cold or scared.





- **The hypodermis** contains collagen, fibers, adipose tissue (fat cells), connective tissue, larger nerves and blood vessels.

Acids, bases, cooling lubricants, greases, pesticides, cleaning agents and frequent contact with water – the skin is exposed to many risks at the workplace. People are therefore exposed not only to risks from inhaled and ingested substances, but also to the effects of agents acting on the skin, i.e. dermal exposure. **Be Caution**

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